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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,366	11/01/1999	DAVID BAGGETT	09765/018001	8583

26161 7590 06/14/2005

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EXAMINER

PHAM, KHANH B

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/431,366

Applicant(s)

BAGGETT ET AL.

Examiner

Khanh B. Pham

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed September 24, 2003 has been entered. Claims 1-5, 19-23, 29-32 have been amended. Claims 1-32 are pending in this Office Action.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **23-32** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The specification does not provide antecedent basis for "computer program product" recited in claims 23-29. Further, in view of claim 19, the "product" is software per se; therefore, claims 23-29 are directed to non-statutory subject matter as being intangible embodied.

The language of claims 30-32 raise a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. All of the recited steps of the method of claim 30-32 could be one by a person as a mental step or using pencil and paper. Claims 30-32 are directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12, 17, 27, 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 27 recite the limitation "the distribution" in line 2. There is insufficient antecedent basis for this limitation in the claims.

Claim 30 recites the limitation "the cache" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 17, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5-21, 23-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehovic (US 6,122,642 A) and in view of Filepp et al. (US 2003/0167307 A1), hereinafter referred to as Mehovic and Filepp.

**As per claims 1, 5, 19, 23 and 30**, Mehovic substantially teaches the claimed invention including an airline computerize reservation system ("CRS") to provide flight and seat availability information (Col. 2 lines 5-20), Mehovic also teaches at Fig. 4 a cache (Fig. 4, element 20) stores data propagated from the CRS 12 data, which is used to response to queries from client 26 (Col. 3 lines 54-58).

The different between Mehovic's system and the claimed invention is that Mehovic uses different cache management algorithm. Mehovic synchronizes the cache 20 with the CRS by propagating data immediately after CRS 12 updates the data or at definable intervals of time (Col. 3 lines 59-65), and therefore does not teach proactively update the cache based on frequency of access to the cache as claimed. However, Filepp teaches an airline reservation system (page 4, [0052]) utilizing caches storage (Fig. 2, 302) wherein the objects in caches are proactively updated based on frequency of access to the objects in the caches (page 50, [0821]-[0823]). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Filepp's cache management algorithm with Mehovic's CRS system so that "only the latest version of the object will be provided to guarantee currency of information to the user" as noted by Filepp at page 50, [0821]. By factoring the frequency of updating of updating of the objects in order to determine whether cached objects are current, Mehovic's system would detect the fights with high frequency of access, which implies that the number of available seats are also changed more frequently, and update the flight data so that the availability information for that flight is

Art Unit: 2167

updated and current, therefore prevent overbooking or assigning the same seat to multiple passengers.

**As per claim 2**, Mehovic and Filepp teach the method of claim 1 as discussed above. Filepp also teaches: "monitoring availability queries made to the cache by a travel planning system to determine which flights, sets of flights, the flights for a certain day, date, or market have a high demand for availability information" at pages 50-51, [0821]-[0827].

**As per claim 3**, Mehovic and Filepp teach the method of claim 1 as discussed above. Mehovic also teaches: "scheduling a list of keys where the list of keys are identifiers of specific instances of transportation to update or add, and for each key on the list in the order given, submitting a query to the availability source; and storing the result in the cache, by updating an entry if present and adding an entry if not present in the cache." at Col. 6 line 40 to Col. 7 line 15.

**As per claim 6**, Mehovic and Filepp teach the system of claim 5 as discussed above. Filepp also teaches the cache manager determines when an entry should be added to the cache at [0826].

**As per claim 7**, Mehovic and Filepp teach the system of claim 5 as discussed above. Filepp also teaches the cache manager determines when an entry should be deleted from the cache at [0827].

**As per claim 8**, Mehovic and Filepp teach the system of claim 5 as discussed above. Filepp also teaches the cache manager determines when an entry already in the cache should be modified at [0821].

**As per claim 9**, Mehovic and Filepp teach the system of claim 5 as discussed above. Mehovic also teach entries to be added, modified, or delete are obtained by asynchronous notification from external systems at Col. 3 lines 60-65.

**As per claim 10**, Mehovic and Filepp teach the system of claim 9 as discussed above. Filepp also teach entries to be added, modified, or delete are taken from a list or multiple list at [0830].

**As per claim 11**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches the entries in the list include predetermined orderings or priority at [0830].

**As per claim 12**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches entries to be added, modified, or delete are determined from the distribution or nature of availability queries poses to the cache at [0826]-[0827].

**As per claim 13**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches entries to be added, modified, or deleted are determined by using a predictor or model of the availability queries which are likely to be posed or are likely to be useful in the future at [0826]-[0830].

**As per claim 14**, Mehovic and Filepp teach the system of claim 13 as discussed above. Filepp also teaches the predictor or model is based on a deterministic, probabilistic, or statistical classifier or predictor, databases or cache of historical data or previously predicted information, simulations of various availability systems and actually availability data sources" at [0826]-[0830].

**As per claim 15**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches entries to be added, modified, or deleted are determined by comparing actual answer or cached answers to predictions made by a predictor or model of the availability information at [0826]-[0830].

**As per claim 16**, Mehovic and Filepp teach the system of claim 13 as discussed above. Filepp also teach the predictor used to guide the cache manager operation predicts the rate of change or time of change at [0826]-[0830].

**As per claim 17**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches entries to be added, modified, or deleted are determined by prior knowledge at [0826]-[0830].

**As per claim 18**, Mehovic and Filepp teach the system of claim 10 as discussed above. Filepp also teaches entries to be modified or deleted are determined by the data of travel or the seat in comparison to the current date at [0826]-[0830].

Independent claims 20-21, 24-29, 30-32 recite similar limitations as discussed above. Claims 20-21, 24-29 and 30-32 are also rejected by the same reasons.

7. **Claims 4, 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehovic and Filepp as applied to claims above, and further in view of Khosravi-Sichani (US 5,983,217 A), hereinafter "Khosravi".

**As per claims 4, 22**, Mehovic and Filepp teach the method of claims 1, 19 as discussed above. Mehovic and Filepp do not teach the step of processing query entry using round-robin algorithm as claimed. However, querying using round-robin is well



Art Unit: 2167

know in the art, as exemplary by Khosravi. Khosravi teaches a method of querying replicate database using round-robin algorithm in order to "provide an even loadsharing of queries" (Col. 1 lines 55-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Khosravi with Mehovic and Filepp's teaching because employing round-robin algorithm would ensure that all queries are processed equally and providing an even loadsharing of queries.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is **(571) 272-3574** for faster service.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh B. Pham whose telephone number is (571) 272-4116. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh B. Pham  
Examiner  
Art Unit 2167

June 6 2005



Primary Examiner